We claim: What is etaimed:

- 1. A high rate packet data transmission system comprising a transmitter for transmitting a control channel and a plurality of data packets on a data channel, wherein the control channel includes at least one indicator for identifying each data packet.
- 2. The system according to claim 1, wherein said transmitter is adapted to transmit the indicator on the control channel prior to the data packet identified by the respective indicator transmitted over the data channel.
- 3. The system according to claim 1, wherein the transmitter spreads the data on the control channel with a different channelization code as the data channel for transmitting the data packets.
- 4. The system according to claim 1, wherein the transmitter uses for the control channel a different frequency as for the data channel for transmitting the data packets.
- 5. The system according claim 1, wherein the transmitter uses for the control channel a different frequency as the data channel for transmitting the data packets.
- 6. The system according to claim 1, wherein the transmitter uses for the channel for transmitting the data packets a channel shared by several users.
- 7. The system according to claim 1, wherein the transmitter uses for the control channel a dedicated channel DCH or a control channel shared by several users.
- 8. The system according to claim 1, wherein the transmitter sends an allocation message on the control channel for a shared uplink or downlink channel.